



# ***SENTRY*<sup>®</sup> – 1200**

## **Pressure Relieving System**

### **Operating Instructions**

Revision 122903-UL2601

SenTech Medical Systems, Inc.



# **WARNING**

Before operating this medical equipment, it is important to read this manual and to understand the operating instructions and safety precautions. Failure to do this could result in patient injury and/ or damage to the product. If you have any questions, please contact SenTech Medical Customer Service at **800-474-4225** or **954-739-4972**.

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## 1.0 SAFETY PRECAUTIONS –

**CAUTION!** The SENTRY 1200 system is *contraindicated* for use with certain medical conditions and treatments. **Always consult with the patient's physician before placing a patient on an alternating pressure system.**

**CAUTION!** Bed frames used with the SENTRY1200 system can vary greatly depending on the specific health care setting, e.g., hospitals, nursing homes, home care, etc. Therefore, it is the responsibility of the caregiver to take the necessary precautions to ensure the safety of the patient. This includes, but is not limited to, the appropriate use of side rails to prevent falls and/or patient entrapment.

### Electronic Controller:

#### **DANGER!**

- Do not use in the presence of flammable anesthetics. **Risk of explosion can result.**
- Exposure of the electronic controller to any liquid while it is plugged in could result in a severe electrical hazard.
- Only use fuses that have the same specified rating (**See Section 8.0 Product Specifications**). Using fuses with higher ratings could result in damage and/or injury.

#### **CAUTION!**

- **Risk of Electric Shock.** Do not open or attempt to repair or service the electronic controller. Repairs and service should only be done by SenTech Medical Systems. If the controller is not functioning properly, or has been damaged, unplug the unit and take it out of service immediately. Contact Customer Service at **800-474-4225** or **954-739-4972** for repair and service information.
- The electronic controller is a precision electronic product. Use care when handling or transporting. Dropping, or other sudden impacts, may result in damage to the controller.

#### **IMPORTANT!**

- Do not return a product for any reason without first contacting Customer Service to obtain authorization (**See Section 10.0**).
- Do not place any objects/items, such as blankets, on, or over, the electronic controller. Excessive weight on the SENTRY 1200 system could result in damage to the electronic controller.
- After exposure to extreme high or low temperatures, allow electronic controller to equilibrate to room temperature before operating.
- The SENTRY 1200 system circulates room air during operation. Exposure to smoke may cause the system to fail. Therefore, smoking by patients, or visitors, while using the SENTRY 1200 system is strongly discouraged.
- The power cord to the electronic controller should be positioned to avoid a tripping hazard and/or damage to the cord. SenTech recommends placing the cord under the bed frame and attaching it to an electrical outlet by the head of the bed.

## 2.0 PRODUCT OVERVIEW -

The SENTRY 1200 is a microprocessor controlled therapeutic **Pressure Relief** mattress system.

The **Alternating Pressure** feature of the SENTRY 1200 provides pressure relief by sequentially deflating and inflating alternate air cells on a timed interval. It is widely recognized that constant pressure to a bony prominence is the leading cause of skin breakdown. The continuous movement provided by the SENTRY 1200 system alleviates these areas of constant pressure and enhances circulation.

The optional **Low Air Loss** feature delivers an indirect flow of air to aid in maintaining a temperature environment that enhances pressure wound therapy.

The SENTRY 1200 electronic controller provides a real-time display of the air pressure for both the inflated and deflated air cells. The deflated air cells provide pressure relief, while the inflated air cells support the patient's weight. The amount of pressure to support a patient can be set automatically, based on the patient's weight, or can be set manually for custom configurations.

All settings are stored in *non-volatile* memory. If the power is interrupted, the controller returns to the previous settings when the power returns.

### 3.0 INSTALLATION –

**NOTE:** It is recommended that all shipping and packing material be saved in the event that the product has to be sent back to SenTech Medical.

#### 3.1 Unpacking and Inspection

Carefully remove the controller, mattress and all accessories from the shipping cartons. Inspect all items for any damage that may have occurred during shipping. Any damages, or missing components, should be reported to SenTech Customer Service as soon as possible.

**Mattress Replacement:** The box contains a completely assembled Mattress Replacement system. This system is comprised of:

- 1.5 Inch Foam Mattress
- Air Cell Assembly with CPR
- Top Coverlet
- CPR Hose Assembly (*Hospital Grade Only*)

**Mattress Overlay:** The Mattress Overlay system is comprised of:

- Air Cell Assembly with CPR
- Top Coverlet

**Electronic Controller:** The electronic controller is packaged in a separate box, inside the mattress box and contains:

- Electronic Controller
- Power Cord
- Operating Instructions
- Bio-Med Data Sheet (Electrical Safety Testing)

#### 3.2 Installation Requirements

The SENTRY-1200 system is designed to operate in a controlled environment that is free from extreme temperatures, high humidity and/or excessive amounts of airborne particulates, such as dust and smoke. The controller hung on the upper outside edge of the footboard on most hospital and home care beds.

#### 3.3 Installation of Air Mattress

**Mattress Replacement System:** No assembly is required. Remove the current mattress from the bed frame and replace with the SENTRY Mattress assembly. The hose connections should be positioned at the bottom left of the bed.

There are two (2) sets of straps with D-rings on each side and one (1) at the head of the mattress. Use these straps to secure the mattress replacement to the bed frame.

**Mattress Overlay:** Place the Mattress Overlay on top of the existing mattress with the hose connections positioned at the bottom left of the bed. Secure by attaching the corner straps under the existing mattress.

**IMPORTANT:** Make sure that the attachment of the mattress system does not interfere with bed movement/operation.

### 3.4 Installation of CPR

1. For Hospital Grade systems, attach the CPR assembly to the mattress by inserting the black round hose assembly into the CPR socket located at the *foot* of the mattress on the patient's right side and turning it counterclockwise  $\frac{1}{4}$  of a turn.
2. For Standard systems, the *red* CPR is located at the *head* of the mattress on the patient's right side and has already been installed at the factory. Although, no further installation is required, the CPR should be inspected to ensure that it has not loosened or become disconnected during shipping.

### 3.5 Electronic Controller

1. **Handles:** The handles on the SENTRY 1200 controller are designed with a spring action:

**Attaching the Controller:** Fully open both handles simultaneously and hang the controller over the upper outside edge of the footboard on the bed frame. When released, the handles will spring back, providing tension to hold the controller securely onto the bed frame.

**Removing the Controller:** Fully open both handles simultaneously to release the tension and lift the controller off of the bed frame.

**CAUTION!** Do not try to remove the controller without first relieving the spring tension on the handles. Failure to do this may damage the handle system.

2. **Mattress Hoses:** Connect the hoses from the *patient's* right side of the mattress shell to the connectors on the left side of the electronic controller. Order of connection is not important.

**NOTE:** Each connector should tightly "click" into place.

3. Plug into an electrical outlet that is compatible with the electrical rating for your particular controller (See **Section 8.0, Specifications**) and turn on the controller.
4. Turn on the controller and inflate the mattress by pressing the blue "MAXIMUM INFLATE" key on the control panel.

## 4.0 OPERATION –

### 4.1 Key Functions and Settings

**Power** This Switch is located next to the electrical cord on the bottom left side of the unit. It is used to control the AC power to the unit.

#### **BASIC FEATURES**

**Function** This key selects either the BED or CHAIR function, depending on whether the controller is connected to a bed mattress or a SenTech Bedside or Recliner Air Chair.

**Therapy** This key selects the ALTERNATING PRESSURE RELIEF mode or AIR FLOATATION mode.

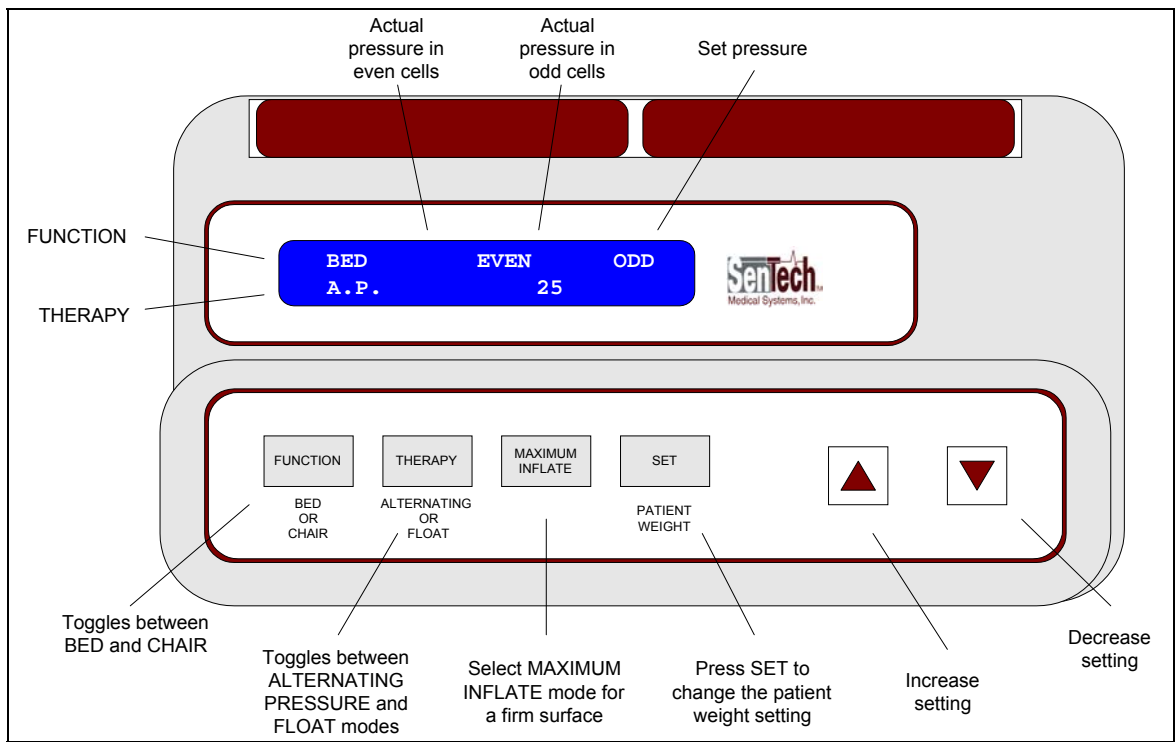
**Increase/Decrease Arrows** The INCREASE and DECREASE arrow keys are used to adjust patient weight and pressure settings

**Maximum Inflate** This key activates and deactivates the maximum inflate (FIRM) mode. When activated, all mattress cells are inflated to 40 mmHg to provide a firm, flat surface. This mode will last for approximately 20 minutes, unless interrupted by pressing either the MAXIMUM INFLATE key again, or any other function key. The system will then revert back to the previous pre-set operating mode. The pressure used in this mode can be varied from 32 to 50 mmHg by using the INCREASE and DECREASE arrow keys on the control panel. This value is *not* stored in permanent memory and defaults to 40 mmHg when the controller is powered up.

**Set** This key allows access to the ADJUST PATIENT WEIGHT screen. This screen is used to enter the patient's weight, which is used by the system to automatically program the set pressures for the weight entered.

### 4.2 Initial Controller Setup

1. Turn the power on by pressing the power switch located on the left side panel of the controller. Refer to **Figure 1** for the remaining instructions.
2. Press the SET key located on the top control panel. Using the INCREASE and DECREASE arrows, select the appropriate patient weight. Weight is adjusted in 5lb. increments. Round the patient weight up to the nearest 5lb. increment.



**Figure 1**

3. Press SET again to store the new weight setting and adjust all set pressures. The pressure for the mattress is now automatically set for that patient.

**NOTE:** An automatic update of the set pressures will only occur if the patient's weight has been changed.

4. The FUNCTION key selects system functions. Be sure that "BED" is selected while the patient is in the bed. Operating instructions for the CHAIR mode are found in **Section 7.0**.
5. Select therapy desired from Alternating Pressure (AP) or Air Floatation (FLOAT) by pressing the THERAPY key on the control panel.

#### **4.3 Advanced Features**

Pressing a key while pressing and holding the SET key will allow access to the following features:

##### ***Function***

Repeatedly pressing the FUNCTION key, while holding down the SET key, causes the system to scroll through the ancillary settings:

1. **Patient Weight** (See Section 4.1 above).
2. **Crossover:** This is the percentage of final pressure that must be in the high-pressure section before the low-pressure section will vent. This significantly affects the transition between cycles and should only be adjusted by advanced users.
3. **Cycle Time:** Total time required for air cells to inflate and then deflate.

**Increase/Decrease Arrows** The DECREASE arrow key will LOCK the keypad from further input. The INCREASE arrow key will UNLOCK the keypad and enable further input. The keyboard defaults to UNLOCK upon power-up.

**Therapy** Pressing the THERAPY key forces a transition (Even-to-Odd or Odd-to-Even). This should only be used by advanced users to troubleshoot the system.

**Hours of Operation** Pressing and holding the SET and FUNCTION keys simultaneously and then turning on the controller will display the total hours of operation for that unit.

#### 4.4 CPR Operation

For Emergency situations that require rapid evacuation of the air in the mattress, the SENTRY 1200 system is equipped with a CPR feature:

**4.4.1 Standard CPR:** The CPR is located at the *head* of the mattress on the patient's *right* side.

1. To activate, firmly pull the red tag labeled "CPR". To increase deflation rate, disconnect the hoses from the controller.
2. All air cells will begin to deflate and air will be rapidly evacuated. Rate of evacuation is dependent on the weight of the patient.
3. To resume normal operation of the mattress, close the CPR device by fully inserting the two (2) CPR hoses into the connector.

**4.4.2 Hospital Grade CPR:** The CPR is located at *foot* of the mattress on the patient's *right* side.

1. To activate, rotate  $\frac{1}{4}$  turn clockwise and pull.
2. All air cells will begin to deflate and air will be rapidly evacuated. Rate of evacuation is dependent on the weight of the patient.
3. To resume normal operation of the mattress, close the CPR device by fully inserting the "CPR" assembly and rotating  $\frac{1}{4}$  turn counterclockwise.

## 5.0 MAINTENANCE AND CLEANING –

**IMPORTANT!** Use a "hospital-grade" disinfectant that is registered with the Environmental Protection Agency (EPA) or chlorine bleach to disinfect your system. Use according to the manufacturer's instructions, including specified *dilutions* and *contact times*.

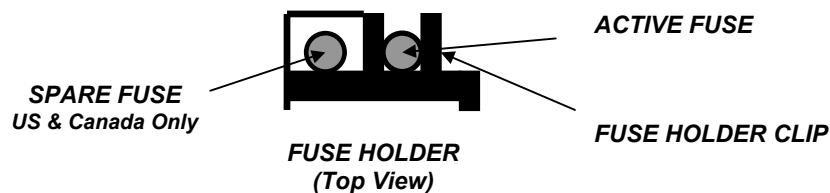
### 5.1 Electronic Controller

#### 5.1.1 Fuse Replacement:

**CAUTION!** Only use fuses that have the same specified rating. Using fuses with different ratings could result in damage and/or injury.

**U.S. and Canada:** One (1) replacement fuse is provided with your controller and is located in the compartment on the electrical cord socket. To replace a fuse:

1. Ensure the power switch is in the OFF position.
2. Remove the power cord from the electrical socket on the side of the controller.
3. Using a small sized flat-head screwdriver, pry the fuse holder away from the socket and slide it out of the socket.
4. Remove the "blown" fuse from the fuse holder clip and discard.
5. Remove the spare fuse from the storage compartment and install it into the fuse holder clip (See Diagram Below):



6. Push the fuse holder completely back into the electrical socket until it "snaps" into place.

**NOTE:** The fuse holder must be properly oriented to slide in correctly. Do not force.

7. Replace power cord and turn on the controller.

**Europe:** Fuse holder contains two (2) *active*, 1 amp fuses. There is no spare fuse.

#### 5.1.2 Filter Maintenance

The filter should be checked every 30 days. If dirty, the filter should be dusted or vacuumed.

**CAUTION!** DO NOT attempt to remove filter or filter cover assembly.

**IMPORTANT!** Good filter maintenance is critical in keeping your SENTRY 1200 controller in optimal operating condition. Failure to keep

the filters clean will result in system downtime and increased repair costs.

- 5.1.3** The exterior of the controller should be periodically wiped using a cloth dampened with disinfectant.

**CAUTION!** DO NOT spray disinfectant directly on the electrical controller, or immerse the controller in any type of liquid. This could result in a severe electrical hazard.

- 5.1.4** Before plugging in the controller, check the power cord for electrical hazards, e.g., cuts, exposed wires, worn insulation, etc. If hazards are present, take the controller out of operation immediately and contact SenTech Customer Service.

- 5.1.5** To ensure optimal performance of your SENTRY 1200 system, calibration should be verified every 12 months. Contact SenTech Customer Service for calibration information.

## **5.2 Coverlet**

### **5.2.1 Washing and Disinfecting**

*If there are visible signs of body fluids and/or substances present, coverlets should be washed between patients. Coverlets can be machine-washed using chlorine bleach (50-150ppm) or an *intermediate level* disinfectant, such as ProTech<sup>1</sup>. Bleach and disinfectant should be used according to the manufacturer's instructions. To determine the amount of bleach or disinfectant to use, determine the amount of water in the washer and then follow the *manufacturer's dilution instructions*. Soak the coverlet in the disinfectant or bleach during the wash cycle. Rinse thoroughly in clean water and dry before use.*

**NOTE!** 2.5 ounces of bleach per 10 gallons of water is approximately 100ppm of available chlorine.

**CAUTION!** DO NOT dry the coverlet using the “*heat*” cycle. Air-dry, or select a low or “*non-heat*” dry cycle, e.g., air fluff.

1. ProTech<sup>®</sup> is a tuberculocidal disinfectant cleaner and a registered trademark of Central Solutions, Inc.

### **5.2.2 Washing Alternative**

If there are no visible signs of body fluids and/or substances present, the coverlet can be sanitized between patients. To sanitize the coverlet:

1. Apply chlorine bleach, or an intermediate level disinfectant at the appropriate dilution (See **Section 5.2.1**) to the upper surface of the coverlet. Bleach/disinfectant may be applied either by spraying or by hand application.
2. Ensure surface is completely covered with the bleach/disinfectant.
3. Allow bleach/disinfectant to remain in contact with the surface according to the manufacturer's instructions.
4. Remove bleach/disinfectant and rinse.
5. Allow to air dry before use.

### **5.3 Outside Shell**

Wipe down with disinfectant, ensuring that all surfaces come in contact with the disinfectant. Rinse off with a clean damp cloth and allow to air dry.

### **5.4 Air Cell Assembly**

**CAUTION!** DO NOT machine wash or dry the air cells.

If the air cell assembly is *visibly* soiled, or if there is an odor, clean by wiping with a disinfectant, prior to use.

## 6.0 TROUBLESHOOTING GUIDE -

Problem	Cause	Solution
<p>1. Alarm light is on.</p>	<p>The alarm is triggered when a cell(s) fails to reach its programmed pressure after three consecutive cycles. This is usually an indication of an air leak somewhere in the system.</p>	<p>a) Check the CPR connections for leaks:            For the <b>Standard CPR</b>, make sure the CPR plugs are fully inserted into the hoses For the <b>Hospital Grade CPR</b>, make sure the six (6) rubber O-rings on the CPR pull are present and not damaged and that the CPR is completely in the “closed” position.</p> <p>b) Be sure all hoses are properly connected to the controller.</p> <p>c) Check all hoses along the inside of the mattress. Ensure they are tightly connected to the fittings and that there are no bends or kinks.</p> <p>d) Check each air cell to ensure there are no leaks. (It will be easier to detect a possible leak if you place the system in the MAX INFLATE mode.)</p> <p>e) Once the leak has been resolved, the alarm light will automatically turn off after three cycles. To reset the system more quickly, turn the power off and then on again to reset.</p>

## 6.0 TROUBLESHOOTING GUIDE (Continued) –

Problem	Cause	Solution
2. Patient is sinking or bottoming out and the alarm light is not on.	Although some sinking is normal for an air mattress, the pressure may be set too low for that patient's weight distribution.	Increase set pressure. An increase of 3 to 5 mm/Hg is often sufficient. Wait at least one full cycle before determining if the pressure increase is adequate.
3. Display readings appear scrambled.	Power surges can cause the controller to temporarily malfunction.	Turn controller power off for 5 seconds, then on again to reset.
4. Controller is inoperable.	May be caused by a power surge substantial enough to overload the internal circuitry.  Or  May be caused by internal damage.	Call SenTech Medical Systems, Inc.  800-474-4225
5. Display readings appear abnormally high.	May be caused by the hoses having a bend or kink and causing an uneven delivery of air.	Check hoses to eliminate any sharp bends or folds.

## 7.0 OPERATING AIR CHAIRS –

The SENTRY 1200 electronic controller will operate the SenTech Bedside, Recliner and Recliner 550 AIR CHAIRS®:

### 7.1 Switching from the Mattress to the Air Chair

**If electronic controller will remain on the footboard of the bed:**

1. Turn controller “Off” and unplug the mattress hoses on the left side of the controller.
2. Cap the two mattress hoses to maintain air pressure in the mattress.

**NOTE!** Caps are available from SenTech Medical.

3. Connect the two AIR CHAIR hoses to the electronic controller.
4. Turn controller “On” and follow AIR CHAIR set up instructions below.

**If electronic controller will be moved away from the bed**

1. Turn controller “Off” and unplug the mattress hoses on the left side of the controller.
2. Move controller to desired location. Plug into electrical outlet.
3. Connect the two air chair hoses to the electronic controller.
4. Turn controller “On” and follow AIR CHAIR set up instructions below.

### 7.2 Air Chair Set-Up

1. On the front panel, press the FUNCTION key to select CHAIR mode. The pressure settings will automatically be converted from the bed mode to the chair mode.
2. If an override of the settings is desired, increase or decrease the pressure as necessary by using the up and down arrows on the far right side of the control panel.

## 8.0 PRODUCT SPECIFICATIONS –

Product Specifications for your SENTRY 1200 system are presented below:

### Electronic Controller –


#### Physical Dimensions:


Height (Inches)	8
Width (Inches)	8 (9, including air ports)
Depth (Inches)	4
Weight (Pounds)	7.5


#### Electrical Specifications:

##### US and Canada:

UL2601 Classification

Class II 

Type B 

Power Requirements	120VAC, 60Hz
External Fuse	2A 250V, Fast Acting
Maximum Current	< 0.5A
Ground	Earth 
Internal Fusing / Position	250mA 125V, Very Fast Acting / Board Mounted

##### Europe:

Power Requirements	240VAC, 50Hz
External Fuses	Two 1A, 250V, Fast Acting
Maximum Current	< 0.5A

#### Operating Parameters:

Weight Range (Pounds)	50-350.
Pressure Range (mmHg)	5-50 (Bed) 40-95 (Chair)

#### Environmental Conditions:

##### Operating Conditions:

Ambient Temperature (°C)	+10 to +40
Relative Humidity (%)	30 to 75
Atmospheric Pressure (hPa)	700 to 1060

##### Storage/Shipping Conditions:

Ambient Temperature (°C)	-20 to +70
Relative Humidity (%)	10 to 100
Atmospheric Pressure (hPa)	500 to 1060

### Mattress Replacement (Fully-Inflated) –

#### Physical Dimensions

Height (Inches)	7 (Replacement) 5.5 (Overlay)
Width (Inches)	36
Length (Inches)	80
Weight (Pounds)	22 (Standard) 24 (Hospital Grade)

## 9.0 WARRANTY INFORMATION –

### LIMITED WARRANTY

SenTech Medical Systems, Inc. (“SenTech”) warrants each of its products to perform in accordance with established specifications for the following time periods, starting from date the product was shipped from the SenTech facility.

#### **Stage IV & Millennium Systems**

**Compressor Pump: 3 Years**

**Electronic Controller: 2 Years**

**Soft Goods: 1 Year**

#### **Primary Care, Sentry, Express & Air Chair Systems**

**Compressor Pump: 2 Years**

**Electronic Controller: 1 Year**

**Soft Goods: 1 Year**

**Battery: 6 Months**

**Recliner Chair: 2 Years**

During the warranty period, SenTech will repair or replace at no charge any products that are not performing in accordance with established specifications, unless the problem/failure is due to (1) customer damage, negligence and/or misuse or (2) unauthorized repairs. Items not covered under warranty include, but are not limited to: stains, punctures, cuts, damages to electrical cords, rips or tears, dents and/or lost/missing parts.

All products returned for warranty repairs must be assigned a return authorization number, prior to return. Returns should include Information describing the problem and/or requested repair and be sent to SenTech by prepaid transportation. SenTech will return the repaired/replaced product at no charge. Warranty repairs do not extend the length of the warranty period. During the warranty period, SenTech will provide one Bio-Med test at no charge, excluding shipping/handling.

Neither SenTech, its officers, directors, employees or agents shall be liable for consequential or other damages, including but not limited to personal injury, loss, or any other expense, directly or indirectly arising from the use of its products. The sole remedy for breach of the limited warranty granted herein shall be repair or replacement of the SenTech products.

All product specifications are subject to change without notice.

## 10.0 PRODUCT RETURNS –

The SENTRY 1200 system has been designed to provide you with years of trouble-free service. However, in the event that the product needs to be returned for any reason, such as calibration, upgrades, testing or repair, the following return procedure must be followed. Failure to follow this procedure may result in unnecessary delays.

### **Return Procedure -**

Before returning a product to SenTech:

1. Contact Customer Service at **800-474-4225** or **954-739-4972** and obtain a **Return Material Authorization (RMA)** number.
2. Package the product in its *approved* packaging.

**IMPORTANT!** Failure to use the *approved* packaging when returning a product may result in shipping damage and could void the warranty.

3. Reference the assigned RMA number on the shipping documents and send to the following address:

***SenTech Medical Systems, Inc.***  
5353 NW 35 Ave  
Ft. Lauderdale, FL 33309  
**Attention:** Customer Service / RMA < # >

***SenTech Medical Systems, Inc.***

*5353 NW 35 Ave  
Ft. Lauderdale, FL 33309*

*Phone: 954-739-4972  
FAX: 954-739-2779  
Web Site: [sentechmedical.com](http://sentechmedical.com)*

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